

## **SPATIAL PROFILING OF PROTEINS USING HYDROPHOBIC MOMENTS**

### **Abstract of the Disclosure**

Generally, the present invention provides a number of procedures to  
5 spatially profile proteins by using hydrophobic moments. In all procedures, a  
hydrophobicity distribution of a protein is shifted and normalized. In one procedure, a  
shape or profile of a curve of a second-order moment of hydrophobicity is determined. A  
second procedure involves determining one or more ratios, such as the ratio of a distance  
10 at which the second order moment of hydrophobicity vanishes to the distance at which a  
zero-order moment of hydrophobicity vanishes. The distance at which a peak occurs in a  
profile of the zero- or second-order moment of hydrophobicity can also be used for  
comparison. For many of these procedures, a surface or profiling contour can be chosen  
and used to accumulate hydrophobicities and to determine the moments. These  
15 procedures can be combined to provide a good mathematical determination of whether a  
protein belongs to a particular class of proteins.